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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/081,465	02/22/2002	Edward Robert Perry	PERRY-010	1060

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EXAMINER

PRONE, JASON D

ART UNIT	PAPER NUMBER
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3724

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/25/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/081,465

Applicant(s)

PERRY, EDWARD ROBERT

Examiner

Jason Prone

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 November 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 1-16 and 23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

It is noted that for the purposes of searching for and applying prior art under 35 U.S.C. 102 and 103, absent a clear indication in the specification or claims of what the basic and novel characteristics actually are, "consisting essentially of" will be construed as equivalent to "comprising." See, e.g., PPG, 156 F.3d at 1355, 48 USPQ2d at 1355

See MPEP 2111.03. "consisting essentially of" is a middle ground between comprising" and "consisting of". If the specification is not clear as to what can and cannot comprise the invention (for example, there's no statement that "my tool does not use a blade guard", if your reference has it, and it does not materially affect the knife blade to have a guard, consider the limitation "comprising" and open. Applicant does not feature any statements that say additional items cannot be used with the claimed apparatus.

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, "the saw blade including a matrix with encapsulated large and small abrasive materials and together forming a corrugated shape", of claim 17, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. Figure 8 only shows the blade with a corrugated shape before the abrasive particles are applied. As claimed the blade has a corrugated shape after the particles are applied and must be shown.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate

changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 17-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 17 it is clear that the saw blade is a combination of the matrix and abrasive materials. So the raised and lowered surfaces are also made up of the matrix and abrasive particles. With regards to item (d) in claim 17 and using Ishizuka as an accurate picture of what a surface featuring abrasive materials would look like, it is unclear how the raised surface is parallel to the lowered surface. The abrasive material is full of an infinite number of shapes thereby making the surfaces of both the raised and lowered surfaces wavy. In order for the surfaces to be parallel all of the surfaces must incorporate the exact same wavy structure. Dictionary.com defines parallel as "extending in the same direction, equidistant at all points, and never converging or diverging". If the wavy portions were not exactly the

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same on each surface they would converge and diverge making them clearly not parallel or substantially parallel. Also, with regards to claim 20, for the same reasons, how can the raised and lowered portions be substantially flat? Dictionary.com defines flat as: having a surface that is without marked projections or depressions. An area with small and large abrasive materials on it will have infinite depressions on it. In light of the definition of flat and with regards to claim 19, for the same reasons how can the angle be 45 degrees? The surfaces are clearly not flat and would have an infinite number of angles due to the infinite number of shaped created by the small and large abrasive materials.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 17, 18, 20, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Hagan (6,098,609).

In regards to claim 17, Hagan discloses the same invention including a saw blade (120) consisting essentially of a matrix (22) for encapsulating large and small abrasive particles in the matrix (26, it is noted that all the portions labeled 26 are not exactly the same size and range from 600 to 850 microns (Column 4 line 19). The terms big and small are relative terms meaning it can be considered big or small when being compared to another structure. In this case all of the grains in the range 600-849

microns can be considered small particles when be compared to the 850 micron grains. For instance, if applicant's small particles where to be used with even smaller particles they are no longer considered small and would be considered large in comparison), the small abrasive particles being encapsulated inside the matrix in a high-density concentration (Column 4 lines 5-25), the blade being corrugated with substantially uniform thickness (Fig. 7) and comprising raised surfaces and lowered surfaces (Fig. 7), the lowered surfaces being parallel to and spaced laterally and longitudinally of the raised surfaces (Fig. 7), and transition portions connecting the raised surfaces and the lowered surfaces (Fig. 7).

In regards to claim 18, Hagan discloses the transition portions are at an angle to the raised and lowered surfaces (Fig. 7).

In regards to claim 20, Hagan discloses the raised and lowered surfaces are substantially flat (Fig. 7).

In regards to claim 21, Hagan discloses the use of two different abrasive materials (abstract)

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hagan in view of Greenspan (4,114,322). Hagan discloses the invention but remains silent

with respect to the angle at which the transition portions interacts with the raised and lowered surfaces. Therefore, Hagan fails to disclose the transition portions are at a 45° angle to the raised and lowered surfaces.

Greenspan teaches transition portions that are at a 45° angle to the raised and lowered surfaces (Fig. 3). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided Ishizuka with transition portions that are at a 45° angle to the raised and lowered surfaces, as taught by Greenspan, to allow the raised and lowered surfaces to be separated laterally and longitudinally with the smallest transition portion and also to maintain symmetry throughout the blade.

8. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizuka. Ishizuka discloses the invention including a saw blade (Column 1, Technical Field) consisting essentially of a corrugated shaped blade of substantially uniform thickness (Fig. 3B) comprising a matrix material (Fig. 1), large abrasive particles encapsulated in the matrix material (33), small abrasive particles in the matrix material between and around the large abrasive particles (33, it is noted that all the portions labeled 33 are not exactly the same size. It is inherent that some of the items labeled 33 will be larger/smaller than other items labeled 33, therefore, 33 designates both large and small abrasive materials), the small abrasive particles being encapsulated in higher density by volume than the larger abrasive particles (it is inherent that the small abrasive particles are encapsulated in a higher density due to the fact that they incorporate a smaller surface area and therefore allow more of the smaller particles into a given area), the corrugated shaped blade comprising raised surfaces (Fig. 3B) and

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lowered surfaces parallel to and spaced laterally and longitudinally of the raised surfaces (Fig. 3B), and transition portions connecting the raised and lowered surfaces (Fig. 3B).

Ishizuka appears to disclose the depth of the corrugations is greater than the thickness of the corrugated shaped blade by a ratio of greater than 3 to 1 in Figure 3B, however, Ishizuka does not actually disclose this ratio only a Figure that might not be to scale. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the depth of the corrugations be greater than the thickness of the corrugated shaped blade by a ratio of greater than 3 to 1, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided Ishizuka with corrugations with a depth greater than the thickness of the corrugated shaped blade by a ratio of greater than 3 to 1 to allow for the corrugations to have a specific shape and/or contain a desired amount of abrasive material.

Response to Arguments

9. Applicant's arguments filed 08 November 2006 have been fully considered but they are persuasive with regards to claims 17-21 but not persuasive with respect to claim 22. The term "consisting essentially of" is considered an equivalent to "comprising" in this case. Applicant must amend the claims to feature the term "consisting of" if they want the closed language requirements associated with the term.

Applicant is arguing that the saw blade as a whole has a corrugated shape (claim 17). Meaning the saw blade including the matrix with the abrasive particles encapsulated therein form a corrugated shape (which must be shown in the Figures). However, claim 22 is not written the same way as claim 17. Claim 22 has a saw blade that includes a corrugated shape blade. As written, the saw blade and the corrugated shaped blade are two different structures. The saw blade consists essentially of a second material that features the corrugated shape then the abrasive materials are put onto the corrugated shape. This claim does not disclose that the saw blade as a whole incorporates the corrugated shape just that the corrugated shaped blade does. Since the corrugated shaped blade is considered just a part of the blade, Ishizuka anticipates this portion of claim 22. In claim 17, it is the saw blade that has all the components and then as a whole features the corrugated shape.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Prone whose telephone number is (571) 272-4513. The examiner can normally be reached on 7:00-4:30, Mon - (every other) Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Boyer D. Ashley can be reached on (571) 272-4502. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

January 19, 2007

A handwritten signature in black ink, appearing to read "Jason Prone", written in a cursive style.

Patent Examiner

Jason Prone

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T.C. 3700